REMARKS

Claims 2-13 and 18-22 are all the claims presently pending in the application. Claims 2-13 and 18-22 have been amended to more particularly define the invention. Claims 1, and 14-17 have been canceled.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-11 and 14-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over WANG, et al. (U.S. Patent No. 6,717,349) in view of MATSUBARA, et al. (U.S. Patent No. 6,509,651). Claims 12-13 and 18-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over MATSUBARA, et al., in view of WANG, et al. Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over MATSUBARA, et al., in view of WANG, et al., and further in view of MORLOTTI (U.S. Patent No. 5,003,181).

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

As recited by the amended independent claims 2, 3 and 5, an exemplary aspect of the claimed invention is directed to a luminous body including a combination of silicate and germanium (Ge), and/or a combination of aluminate and gallium (Ga) as indicated by the respective empirical formulas of claims 2, 3 and 5. In this regard, the present specification (page 20, lines 8-14) mentions that "Both germanium in a silicate lattice and gallium in an aluminate lattice slightly cause lattice expansion. In both the cases, emitted light is slightly shifted, and this affects the fluorescence lifetime. The light thus obtained has significantly

high fluorescence lifetime, high thermostability, and high light quality." Thus, by using the lattice expansion, the claimed invention can offer the above effects.

Conventional luminous bodies used in LEDs are disadvantageously unsatisfactory in temperature characteristics, as well as in thermostability. Due to these drawbacks, during the operation of an LED, the effectiveness of the luminous body significantly decreases with increasing the temperature. As with the case of the YAG luminous body system, this causes a shift in energy distribution of light emission which causes a light color change.

For some applications, conventional luminous bodies used in LEDs, for example, a Ce-activated YAG luminous body composed of barium magnesium aluminate and an Eu-activated BAM luminous body, have an additional drawback of a short fluorescence lifetime. The fluorescence lifetime of main conventional luminous bodies, that is, the Ce-activated luminous body and the Eu-activated luminous body, is typically a few microseconds. In some cases, the maximum fluorescence lifetime is a few milliseconds. (See Application at page 3, lines 1-19).

II. THE PRIOR ART REFERENCE

A. The Rejection Based on Wang and Matsubara

The Examiner alleges that Wang, when combined with Matsubara, renders claims 1-11 and 14-17 obvious, and that Matsubara, when combined with Matsubara, renders claims 12, 13, and 18-22 obvious. Applicants submit, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Claim 2 recites:

"wherein the luminous body comprises silicate-germanate and is doped with europium to improve its thermostability"

Also, Claim 3 recites:

"wherein the luminous body comprises aluminate-gallate and is doped with europium to improve its thermostability"

Further, Claim 5 recites features similar to claim 3.

Wang fails to teach or suggest the above features of the claimed invention. In fact, Wang is silent about the combination of silicate and germanium (Ge), and/or the combination of aluminate and gallium (Ga) as recited by the amended claims 2, 3 and 5. Therefore, Wang cannot attain the same effect as the claimed invention.

Matsubara also fails to teach or suggest the above features of the claimed invention. In fact, Matsubara is silent about the combination of silicate and germanium (Ge), and/or the combination of aluminate and gallium (Ga) as recited by the amended claims 2, 3 and 5. Therefore, Matsubara cannot attain the same effect as the claimed invention.

As conceded by the Examiner, Wang does not disclose the luminous body comprising silicate-germanate. (Office Action, page 3, line 6). Although the Examiner alleges that it would have been obvious to choose silicate-germanate as a substrate in a fluorescent luminous body, the Examiner has not demonstrated that it is known to one of ordinary skill in the art to use the silicate-germinate as a substrate in a fluorescent luminous body, or that it is suitable for the intended use as an LED material that has significantly high fluorescence lifetime, high thermostablility, and high light quality. Indeed, Wang does not teach or suggest that silicate-germanate would be suitable as a luminous body, or be capable of achieving prolonged fluorescence lifetime.

With regards to claims 3 and 5, despite the Examiner's allegations that Wang teaches the aluminate-gallate of the claimed invention, (Office Action, page 3 lines 12-16 and 20-22 and page 4, lines 1-3) the Examiner appears to have confused the claimed, "aluminate-gallate"

with the "aluminum garnet flourescent powder" disclosed by Wang (Column 1, lines 35-36 and column 2, lines 5-6), which are two completely different materials. As above, the Examiner has not demonstrated that it is known to one of ordinary skill in the art to use the aluminate-gallate as a substrate in a fluorescent luminous body, or that it is suitable for the intended use as an LED material that has significantly high fluorescence lifetime, high thermostablility, and high light quality. Indeed, Wang does not teach or suggest that aluminate-gallate would be suitable as a luminous body, or be capable of achieving prolonged fluorescence lifetime.

Therefore, the Applicants submit that Wang does not teach or suggest all the features of the claimed invention as recited by claims 2, 3, and 5.

Matsubara also fails to remedy the deficiencies of Wang, as the Examiner does not even allege that Matsubara teaches or suggest the above-recited claim features. Instead, the Examiner merely alleges that Matsubara discloses doping a luminous body substrate with zinc (Office Action, page 2, paragraph 3 and page 4), emitting white/colored light (page 4), and wavelength connecting part (page 6, line 1).

Therefore, neither Wang nor Matsubara, either by itself or in combination, teaches the features of the claimed invention as recited by claims 2, 3, and 5.

Reconsideration and withdrawal of the rejections are respectfully requested.

B. Morlotti

The Examiner alleges that Matsubara and Wang would have been further combined with Morlotti to render obvious claim 13. However, Morlotti also fails to remedy the deficiencies of Matsubara or Wang.

The Examiner does not even attempt to allege that Morlotti teaches the above claim features as recited by claim 2. Instead, Examiner merely alleges that Morlotti discloses a light

guiding means having a linear or arched end portion to receive and guide the emitted light. (Office Action, Page 8, lines 11-13).

Accordingly, since the alleged combination of references does not teach or suggest each and every feature of the claimed invention, the Examiner is respectfully requested to reconsider and withdraw these rejections.

III. FORMAL MATTERS AND CONCLUSION

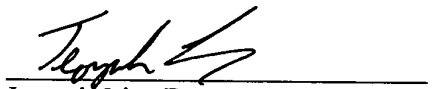
In view of the foregoing, Applicants submit that claims 2-13 and 18-22, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 10/31/07



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